

Claims

- [c1] A method for making a preform from a polyester-based resin stored at ambient conditions, comprising the steps of: a) reducing the absorbed oxygen in the polyester-based resin by contacting the resin with an oxygen-depleted atmosphere; b) heating the polyester-based resin in an oxygen-depleted atmosphere to a temperature above the melting point until the polyester-based resin can be injection molded; c) creating a preform from the melt by injection molding in an oxygen-depleted atmosphere.
- [c2] The method for making a preform as recited in claim 1, wherein the drying step (a) occurs at a temperature between about 120 ° C and about 170 ° C.
- [c3] The method for making a preform as recited in claim 2, wherein steps (b) and (c) occur in an atmosphere substantially devoid of oxygen.
- [c4] The method for making a preform as recited in claim 2, wherein the drying step (a) occurs in an atmosphere substantially devoid of oxygen.
- [c5] A preform made using the method of claim 1.
- [c6] A preform made using the method of claim 2.
- [c7] A preform made using the method of claim 3.
- [c8] A preform made using the method of claim 4.
- [c9] The method for making a preform as recited in claim 2, further comprising the step, following (c), of blow molding a bottle from the preform.
- [c10] A method for making a preform from a polyester-based resin stored at ambient conditions, comprising the steps of: a) contacting the polyester-based resin with an oxygen-depleted atmosphere at a temperature between about 120 ° C and about 170 ° C for a predetermined time; b) heating the polyester-based resin in an oxygen-depleted atmosphere to a temperature above the melting point until the polyester-based resin can be injection molded; and c) creating a preform from the melt by injection molding.

- [c11] A method for making a preform as recited in claim 10, wherein step (a) occurs in an atmosphere substantially devoid of oxygen.
- [c12] A method for making a preform as recited in claim 10, wherein step (b) occurs in an atmosphere substantially devoid of oxygen.
- [c13] A preform made using the method of claim 10.
- [c14] A preform made using the method of claim 11.
- [c15] A preform made using the method of claim 12.
- [c16] An apparatus for making a preform from a polyester-based resin stored at ambient conditions, comprising: a) a drying hopper having an outlet; b) an injection molding machine receiving polyester-based resin from the drying hopper outlet; and c) means for injecting an inert gas, connected to the drying hopper near the outlet.
- [c17] An apparatus as recited in claim 16, wherein the means for injecting an inert gas is a gas line and a pressure regulator.